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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,328	07/10/2003	Yasuhiro Miki	9281/4608	2828

7590 04/19/2005

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EXAMINER

CALEY, MICHAEL H

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No.	Applicant(s)	
	10/617,328	MIKI ET AL.	
	Examiner	Art Unit	
	Michael H. Caley	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. (U.S. Patent No. 5,982,470 "Nakahara") in view of Sasuga et al. (U.S. Patent No. 5,680,183 "Sasuga").

Regarding claim 1, Nakahara discloses a liquid crystal display device having:

a pair of substrates (Figure 27 elements 1 and 2) opposing each other with a gap therebetween, a liquid crystal layer being held between the pair of substrates (Figure 10 element 9);

transparent electrodes (Figures 10 and 11 elements 3 and 4) provided on the liquid crystal layer side of each of the pair of substrates so that the transparent electrodes on one of the substrates intersect the transparent electrodes on the other substrate;

metal lead wirings (Figure 26 element 19) provided on one of the substrates to be connected to the transparent electrodes on the one substrate so that ends of the transparent electrodes on the one substrate are connected to the lead wirings to form connection portions (Figure 26 elements 19 and 4);

a transparent dummy electrode provided for controlling the gap at a position on the other substrate opposite to a connection portion between the transparent electrodes and the lead wirings on the one substrate (Figures 26 and 27 element 44, beneath element 20);

wherein the transparent dummy electrode is formed to avoid positions opposite to the connection portions (Figures 26 and 27).

Nakahara fails to disclose the transparent electrodes connected to the metal lead wirings as overlapped on the lead wirings to form overlap portions at the connection portions. Sasuga, however, teaches such overlap portions as a conventional method of connecting a transparent electrode to a metal lead as a means of minimizing the probability of breakage of the conductive line (Column 12 lines 24-34; Figures 10 and 19 elements d1, d2, and d3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the connecting portions disclosed by Nakahara as overlapping portions as taught by Sasuga. Sasuga teaches overlapping metal leads to the transparent electrode as a means of assuring an efficient contact between the leads and the electrode with minimal likelihood of breakage of the connection, consistent with conventional wiring connection methods of the prior art. One would have been motivated to overlap the metal lead and the transparent electrode to minimize the probability of failure and extend the life of the device while benefiting from the expected results of such a construction.

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Regarding claim 2, Nakahara discloses the transparent dummy electrode (Figures 26 and 27 element 44, beneath element 20) is also provided on portions opposite to spaces between the ends of the transparent electrodes on the one substrate.

Regarding claim 3, Nakahara discloses the transparent electrodes on the one substrate as wider than the lead wirings (Figure 26 elements 19 and 4; Column 8 lines 5-24).

Regarding claim 6, Nakahara as modified by Sasuga discloses the overlap/connection portions as disposed within the ring (Nakahara, Figure 2; Sasuga, Figure 19).

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara in view of Sasuga and in further view of Grupp et al. (U.S. Patent No. 5,032,006 “Grupp”).

Nakahara discloses a seal surrounding the liquid crystal material and joining the pair of substrates (abstract). Nakahara fails to disclose the seal as an anisotropic conductive resin adhesive. Grupp, however, teaches such a material as advantageously utilized as a sealing material in a frame shape surrounding the liquid crystal material (Column 2 line 64 – Column 3 line 2, Column 4 line 48 – Column 5 line 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the sealing material of an anisotropic conductive resin adhesive in the display device disclosed by Nakahara. One would have been motivated to form the sealing material of such a material to benefit from numerous advantages of such a seal conventionally

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known in the art and taught by Grupp. An anisotropic seal allows for electrical connections between the display electrodes and the control circuit to be made without offsetting the pair of substrates or selectively removing or depositing layers, allowing for a simpler and more economical manufacturing method (Column 1 lines 13-63).

Response to Arguments

Applicant's arguments filed 1/18/05 have been fully considered but they are not persuasive.

Claims 1-3 stand rejected as unpatentable over Nakahara in view of Sasuga. Applicant asserts that the examiner fails to make out a *prima facie* case of obviousness due to failure to teach or suggest all of the elements and limitations of claim 1.

Applicant states that Nakahara fails to disclose the lead wirings (Figure 26 element 19) as metal lead wirings because they are disclosed as composed of "indium tin oxide, or the like". The examiner maintains, however, that the lead wiring is a metal lead wiring since indium tin oxide is generally regarded as an example of a metal material within the art (See U.S. Patent No. 5,557,436 to Blose et al., Column 4 lines 10-16. U.S. Patent No. 6,459,463 to Kim et al. and U.S. Patent No. 5,969,782 to Lee et al. contain further examples of indium tin oxide exemplified as a metal).

Applicant asserts that Nakahara fails to disclose "connection portions" and states:

"Elements 19 and 4 are identified as 'connected portions' and this is not the same as 'connection portions'"

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The examiner maintains, however, that the abutting junction between elements 19 and 4 represents a connection portion given the physical contact and electrical conductivity between the two elements. Furthermore, the examiner fails to recognize any structural distinction between the terms “connected portions” and “connection portions”.

Applicant asserts that Nakahara fails to disclose “the transparent dummy electrode as formed to avoid positions opposite to the overlap portions”. The examiner disagrees and maintains that the reference discloses a transparent dummy electrode accordingly. The claim language discloses a single dummy electrode positioned as proposed. Nakahara discloses such a dummy electrode (44 beneath element 20) as formed opposite another dummy electrode (20) (Figures 26 and 27 element 44 beneath element 20). The same dummy electrode (44) is not positioned opposite an overlap or connection portion.

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FIG. 26

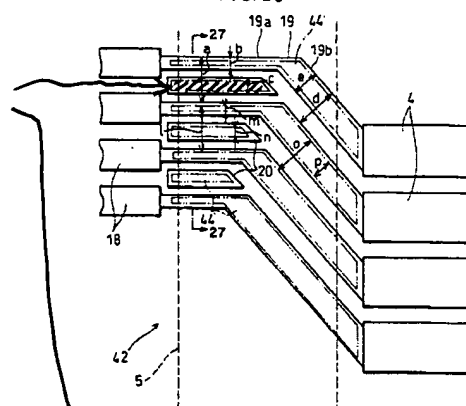
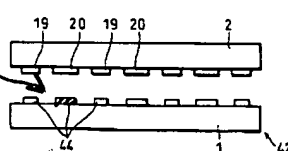


FIG. 27



This electrode avoids positions opposite to overlap portions

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571) 272-2286. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael H. Caley

April 8, 2005

mhc

mhc


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER